Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE
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Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director
(804) 698-4000

Amy Thatcher Owens
Regional Director

July 29, 2020

Mr. Robert Conrad
Operations Manager
Columbia Pipeline Group
34646 Old Valley Pike
Strasburg, Virginia 22657
via email: rconrad@cpg.com

Facility: Strasburg Compressor Station
Location: Shenandoah County
Registration No.: 81286

Dear Mr. Conrad:

Attached is a Title V permit to operate your facility pursuant to 9VAC 5 Chapter 80 Article 1 of the Virginia Regulations for the Control and Abatement of Air Pollution. This permit incorporates provisions from the permit dated January 31, 2017.

In the course of evaluating the application and arriving at a final decision to issue this permit, the Department of Environmental Quality (DEQ) deemed the application complete on June 3, 2019 and solicited written public comments by placing a newspaper advertisement in the Northern Virginia Daily on April 28, 2020. The thirty-day required comment period, provided for in 9VAC 5-80-270 expired on May 28, 2020.

The permit contains legally enforceable conditions. Failure to comply may result in a Notice of Violation and/or civil charges. Please read all permit conditions carefully.

This permit approval to operate shall not relieve Columbia Gas Transmission, LLC of the responsibility to comply with all other local, state, and federal permit regulations.

To review any federal rules referenced in the attached permit, please refer to the website on which the US Government Publishing Office maintains the text of these rules: www.ecfr.gov, Title 40, Part 70.

The Board's Regulations as contained in Title 9 of the Virginia Administrative Code 5-170-200 provide that you may request a formal hearing from this case decision by filing a petition with the Board within 30 days after this case decision notice was mailed or delivered to you. Please consult the relevant regulations for additional requirements for such requests.

As provided by Rule 2A:2 of the Supreme Court of Virginia, you have 30 days from the date you actually received this permit or the date on which it was mailed to you, whichever occurred first, within which to initiate an appeal of this decision by filing a Notice of Appeal with:

David K. Paylor, Director
Department of Environmental Quality
P. O. Box 1105
Richmond, VA 23218

If this permit was delivered to you by mail, three days are added to the thirty-day period in which to file an appeal. Please refer to Part Two A of the Rules of the Supreme Court of Virginia for information on the required content of the Notice of Appeal and for additional requirements governing appeals from decisions of administrative agencies.

If you have any questions concerning this permit, please contact me at Janardan.Pandey@deq.virginia.gov or (540) 574-7817.

Sincerely,

Janardan R. Pandey, P.E.
Air Permit Manager

Attachment: Permit

c: David Taylor, DEQ Air Inspector
Mili R. Patel, Columbia Pipeline Group Senior Environmental Engineer (milipatel@cpg.com)
OAPP – Susan Tripp
Associate Director, Air Permits Branch, Air & Radiation Division, US. EPA Region 3
File DEQ-VRO

Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Federal Operating Permit

Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9VAC5-80-50 through 9VAC5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	Columbia Gas Transmission, LLC
Facility Name:	Columbia Gas – Strasburg Compressor Station
Facility Location:	367 Radio Station Road Strasburg, Virginia
Registration Number:	81286
Permit Number:	VRO81286

This permit includes the following programs:
Federally Enforceable Requirements - Clean Air Act

August 1, 2020
Effective Date

July 31, 2025
Expiration Date

Deputy Regional Director

July 27, 2020
Signature Date

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Facility Information

Permittee
Columbia Gas Transmission, LLC
700 Louisiana Street, Suite 700
Houston, Texas 77002

Responsible Official
Robert Conrad
Operations Manager

Facility
Columbia Gas – Strasburg Compressor Station
367 Radio Station Road
Strasburg, Virginia 22657

Contact Person
Mili R. Patel
Senior Environmental Engineer
(832) 320-5895

County-Plant Identification Number: 51-171-00078

Facility Description: NAICS 486210 – Pipeline transportation of natural gas

The facility is subject to the following subparts in 40 CFR 60 and 63:

- 40 CFR 60, Subpart JJJJ (*Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*)
- 40 CFR 60, Subpart KKKK (*Standards of Performance for Stationary Combustion Turbines*)
- 40 CFR 60, Subpart OOOOa (*Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced after September 18, 2015*)
- 40 CFR 63, Subpart ZZZZ (*National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)*)

Columbia Gas – Strasburg Compressor Station is part of Columbia Gas Transmission, LLC (Columbia Gas). The Strasburg natural gas compressor station facility is located two miles north of Strasburg in Shenandoah County. A compressor station, using turbine engines to compress the natural gas, provides the pressure to aid in the transport of the gas through a pipeline. The Strasburg Compressor Station is part of Columbia Gas' interstate gas transmission system. The station includes four turbine engines and an emergency generator. Combustion in the turbines

and generator produces emissions, primarily nitrogen oxides (NO_x), volatile organic compounds (VOC) and carbon monoxide (CO).

The facility is a Title V major source of nitrogen oxides (NO_x) and carbon monoxide (CO). This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility is currently permitted under a Minor NSR Permit issued on January 31, 2017.

Emission Units

Equipment to be operated consists of:

Fuel Burning Equipment

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description *	PCD ID	Pollutant Controlled	Applicable Permit Date
E03		Solar Titan 130 Turbine (natural gas-fired) (2015)	19,796 hp @ 32°F 161.1 MMBtu/hr (HHV) @ 32°F	N/A	N/A	N/A	1/31/2017
E04		Solar Taurus 70 Turbine (natural gas-fired) (2018)	10,999 hp @ 32°F 90.74 MMBtu/hr (HHV) @ 32°F	N/A	N/A	N/A	1/31/2017
E05		Solar Taurus 70 Turbine (natural gas-fired) (2018)	10,999 hp @ 32°F 90.74 MMBtu/hr (HHV) @ 32°F	N/A	N/A	N/A	1/31/2017
E06		Solar MARS 100 Turbine (natural gas-fired) (2018)	15,565 hp @ 32°F 133.0 MMBtu/hr (HHV) @ 32°F	N/A	N/A	N/A	1/31/2017
G3		Waukesha VGF-L36GL Emergency Generator (natural gas-fired) (2018)	6.83 MMBtu/hr input; 880 brake horsepower (bhp) output	N/A	N/A	N/A	1/31/2017

* The Size/Rated capacity and PCD efficiency is provided for informational purposes only and is not an applicable requirement.

Fuel Burning Equipment Requirements – Turbines (E03 through E06) and Emergency Generator (G3)

1. **Fuel Burning Equipment Requirements - (E03 – E06) - Limitations** - Nitrogen Oxide (NO_x) emissions from the turbines shall be controlled by dry low NO_x (SoLoNOx) combustion control technology. The turbines shall be provided with adequate access for inspection. The SoLoNOx technology shall be in operation when the turbines are operating in normal operating mode (above 0 °F and greater than 50% load).
(9VAC5-80-110 and Condition 2 of 1/31/17 Permit)

2. **Fuel Burning Equipment Requirements - (E03 – E06) - Limitations** - Carbon Monoxide (CO) and Volatile Organic Compound (VOC) emissions from the turbines shall be controlled by the use of good combustion practices and proper operation and maintenance in accordance with the manufacturer's operating instructions, at a minimum.
(9VAC5-80-110 and Condition 3 of 1/31/17 Permit)

3. **Fuel Burning Equipment Requirements - (E03 – E06) - Limitations** - The permittee shall operate and maintain each turbine, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.
(9VAC5-80-110 and Condition 4 of 1/31/17 Permit)

4. **Fuel Burning Equipment Requirements - (E03 – E06) - Limitations** - The permittee shall take reasonable precautions to minimize volatile organic compound emissions from the natural gas venting, which shall include the following, at a minimum:

    a. Proper operation and maintenance in accordance with the manufacturer's operating instructions;

    b. Install electric starters to reduce the volume of gas vented to the atmosphere during startup;

    c. Install electric seal gas booster pumps to maintain pressurized holds limiting the number of blowdowns and volume of gas vented to atmosphere following a shutdown; and

    d. Coordinate maintenance activities to reduce the total number of blowdowns.

    (9VAC5-80-110 and Condition 5 of 1/31/17 Permit)

5. **Fuel Burning Equipment Requirements - (G3) - Limitations** -. NO_x, CO, and VOC emissions from the emergency generator engine shall be controlled by proper engine operation in accordance with manufacturer written instructions or procedures developed by the permittee that are approved by the manufacturer, over the entire life of the engine. In addition, the permittee may only change those settings that are approved by the

manufacturer in a manner consistent with good air pollution control practices for minimizing emissions.
(9VAC5-80-110 and Condition 6 of 1/31/17 Permit)

6. **Fuel Burning Equipment Requirements - (E03 – E06, G3) - Limitations** -. The approved fuel for the four turbines and emergency generator is pipeline natural gas. A change in the fuel shall be considered a change in the method of operation of the four turbines and emergency generator and may require a new or amended permit.
(9VAC5-80-110 and Condition 7 of 1/31/17 Permit)

7. **Fuel Burning Equipment Requirements - (E03 – E06, G3) - Limitations** -. The pipeline natural gas shall not exceed a sulfur content of 0.25 grains of sulfur per 100 standard cubic feet on a 12-month rolling average basis, and a sulfur content of 20 grains of sulfur per 100 standard cubic feet at any time.
(9VAC5-80-110, 40 CFR 60.4365(a) and Condition 8 of 1/31/17 Permit)

8. **Fuel Burning Equipment Requirements - (G3) - Limitations** -. The emergency generator engine shall not operate more than 500 hours per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 10 of 1/31/17 Permit)

9. **Fuel Burning Equipment Requirements – (EO3 – EO6) - Limitations** – The permittee shall comply with the following 40 CFR 60 Subpart KKKK regulated pollutant (i.e. nitrogen oxide per 40 CFR 60.4315) requirements for each turbine. Nitrogen oxide (NO_x) shall not exceed:

   a. 25 ppm at 15 percent O_2 or 1.2 lb/MWh at operating loads of 75% or greater, and

   b. 150 ppm at 15 percent O_2 or 8.7 lb/MWh at operating loads less than 75% of peak load or at temperatures less than 0 degrees F (40 CFR 60.4320).

   (9VAC5-80-110, 9VAC5-50-410, Condition 12 of 1/31/17 Permit and 40 CFR 60 Subpart KKKK)

10. **Fuel Burning Equipment Requirements – (E03) – Limitations** - Short-term emissions from the normal operation of the turbine shall not exceed the limits specified below:

Nitrogen Oxides (as NO_2)*	15 ppmvd @ 15% O_2 9.2 lb/hr
Carbon Monoxide*	25 ppmvd @ 15% O_2 9.3 lb/hr
Volatile Organic	5 ppmvd @ 15% O_2

Compounds*	1.1 lb/hr
PM (filterable)	0.3 lb/hr
PM10 (total)	1.1 lb/hr
PM2.5 (total)	1.1 lb/hr
Sulfur Dioxide	9.7 lb/hr

* Emission concentration limits for NO_x, CO, and VOC are applicable in Normal Load (maximum power rating of the turbine at ≥ 0° F). The emission rates in other operating modes, including Low Temperature mode from < 0° F to -20° F, Low Load operation (<50%), and Startup/Shutdown periods, are listed in Attachment A.

The permittee shall record the duration of each operational mode in order to calculate emissions, and shall operate the facility so as to minimize the frequency and duration of startup and shutdown events. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 6, 7, 39 and 41.
(9VAC5-80-110 and Condition 13 of 1/31/17 Permit)

11. **Fuel Burning Equipment Requirements – (E03) – Limitations** - Annual emissions from the operation of the turbine shall not exceed the limits specified below:

Nitrogen Oxides (as NO2)	38.9 tons/yr
Carbon Monoxide	86.0 tons/yr
Volatile Organic Compounds	5.0 tons/yr
PM (filterable)	1.3 tons/yr
PM10 (total)	4.7 tons/yr
PM2.5 (total)	4.7 tons/yr
Sulfur Dioxide	0.5 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Annual emissions shall include Normal Load and other operational modes (e.g. Low Temperature mode from < 0° F to -20° F, Low Load operation (<50%), and Startup/Shutdown periods). Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 6, 7, 22 and 27.

(9VAC5-80-110 and Condition 14 of 1/31/17 Permit)

12. **Fuel Burning Equipment Requirements – (E04 and E05) – Limitations** - Short-term emissions from the normal operation of each of the turbines shall not exceed the limits specified below:

Nitrogen Oxides (as NO2)*	15 ppmvd @ 15% O2 5.1 lb/hr
Carbon Monoxide*	25 ppmvd @ 15% O2 5.2 lb/hr
Volatile Organic Compounds*	5 ppmvd @ 15% O2 0.6 lb/hr
PM (filterable)	0.2 lb/hr
PM10 (total)	0.6 lb/hr
PM2.5 (total)	0.6 lb/hr
Sulfur Dioxide	5.4 lb/hr

* Emission concentration limits for NO_x, CO, and VOC are applicable in Normal Load (maximum power rating of the turbine at ≥ 0° F). The emission rates in other operating modes, including Low Temperature mode from < 0° F to -20° F, Low Load operation (<50%), and Startup/Shutdown periods, are listed in Attachment A.

The permittee shall record the duration of each operational mode in order to calculate emissions, and shall operate the facility so as to minimize the frequency and duration of startup and shutdown events. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 6, 7, 27, 39 and 41.
(9VAC5-80-110 and Condition 15 of 1/31/17 Permit)

13. **Fuel Burning Equipment Requirements – (E04 and E05) – Limitations** - Annual emissions from the combined operation of the turbines shall not exceed the limits specified below:

Nitrogen Oxides (as NO2)	43.8 tons/yr
Carbon Monoxide	91.9 tons/yr
Volatile Organic Compounds	5.5 tons/yr

PM (filterable)	1.5 tons/yr
PM10 (total)	5.3 tons/yr
PM2.5 (total)	5.3 tons/yr
Sulfur Dioxide	0.6 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Annual emissions shall include Normal Load and other operational modes (e.g. Low Temperature mode from < 0° F to -20° F, Low Load operation (<50%), and Startup/Shutdown periods). Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 6, 7, 21, and 27.
(9VAC5-80-110 and Condition 16 of 1/31/17 Permit)

14. **Fuel Burning Equipment Requirements – (E06) – Limitations** - Short-term emissions from the normal operation of the turbine shall not exceed the limits specified below:

Nitrogen Oxides (as NO2)*	15 ppmvd @ 15% O2 7.6 lb/hr
Carbon Monoxide*	25 ppmvd @ 15% O2 7.7 lb/hr
Volatile Organic Compounds*	5 ppmvd @ 15% O2 0.9 lb/hr
PM (filterable)	0.3 lb/hr
PM10 (total)	0.9 lb/hr
PM2.5 (total)	0.9 lb/hr
Sulfur Dioxide	8.0 lb/hr

* Emission concentration limits for NO_x, CO, and VOC are applicable in Normal Load (maximum power rating of the turbine at ≥ 0° F). The emission rates in other operating modes, including Low Temperature mode from < 0° F to -20° F, Low Load operation (<50%), and Startup/Shutdown periods, are listed in Attachment A.

The permittee shall record the duration of each operational mode in order to calculate emissions, and shall operate the facility so as to minimize the frequency and duration of startup and shutdown events. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 6, 7, 21, 39 and 41.
(9VAC5-80-150 and Condition 17 of 1/31/17 Permit)

15. **Fuel Burning Equipment Requirements – (E06) – Limitations** - Annual emissions from the operation of the turbine shall not exceed the limits specified below:

Nitrogen Oxides (as NO_2)	32.0 tons/yr
Carbon Monoxide	67.7 tons/yr
Volatile Organic Compounds	4.1 tons/yr
PM (filterable)	1.1 tons/yr
PM10 (total)	3.8 tons/yr
PM2.5 (total)	3.8 tons/yr
Sulfur Dioxide	0.42 tons/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Annual emissions shall include Normal Load and other operational modes (e.g. Low Temperature mode from < 0° F to -20° F, Low Load operation (<50%), and Startup/Shutdown periods). Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions 1, 2, 6, 7, 21, and 27.
(9VAC5-80-110 and Condition 18 of 1/31/17 Permit)

16. **Fuel Burning Equipment Requirements – (G3) – Limitations** - Emissions from the operation of the emergency generator shall not exceed the limits specified below:

NO_x (as NO_2)	3.9 lb/hr	1.0 ton/yr
CO	7.8 lb/hr	1.9 tons/yr
VOC	1.9 lb/hr	0.5 ton/yr

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance with these emission limits may be determined as stated in Conditions 5, 6, and 8.
(9VAC5-80-110 and Condition 19 of 1/31/17 Permit)

17. **Fuel Burning Equipment Requirements – (G3) - Limitations** – Except where this permit is more restrictive than the applicable requirement, the generator shall be operated in compliance with the requirements of 40 CFR 60 Subpart JJJJ.

(9VAC5-80-110, 9VAC5-50-410, 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ)

18. **Fuel Burning Equipment Requirements – (G3) – Limitations** – The generator must meet the requirements of 40 CFR Part 63 by meeting the requirements of 40 CFR Part 60 Subpart JJJJ. No further requirements apply for the generator under 40 CFR Part 63.
(9VAC5-80-110, 9VAC5-60-100 and 40 CFR 63.6590(c))

19. **Fuel Burning Equipment Requirements - (G3) - Limitations** - Emissions from the operation of the generator shall not exceed the limits specified below:

Pollutant	g/HP-hr	OR	ppmvd @ 15% O2
NO_x	2.0		160
CO	4.0		540
VOC, excluding formaldehyde	1.0		86

(9VAC5-80-110, 40 CFR 60.4233(e), Table 1 of 40 CFR 60 Subpart JJJJ and 40 CFR 63 Subpart ZZZZ)

20. **Fuel Burning Equipment Requirements – (E03 – E06) – Limitations** - Visible emissions from the turbines shall not exceed 10 percent opacity as determined by 40 CFR 60, Appendix A, Method 9. This condition applies at all times except during startup, shutdown, and malfunction.
(9VAC5-80-110 and Condition 21 of 1/31/17 Permit)

21. **Fuel Burning Equipment Requirements – (E04 – E06) – Limitations** - Turbines E04 and E05 shall be limited to a combined 400 startup and 400 shutdown events per year. Turbine E06 shall be limited to 200 startup and 200 shutdown events per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 22 of 1/31/17 Permit)

22. **Fuel Burning Equipment Requirements – (E03) – Limitations** - Turbine E03 shall be limited to 156 startup and 156 shutdown events per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9VAC5-80-110 and Condition 23 of 1/31/17 Permit)

23. **Fuel Burning Equipment Requirements – (G3) – Limitations** - The operation of the emergency generator is limited to emergency situations. Emergency situations include emergency generator use to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted. The emergency generator may be operated for the purpose of maintenance checks and readiness

testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. (9VAC5-80-110 and Condition 24 of 1/31/17 Permit)

24. **Fuel Burning Equipment Requirements – (G3) – Limitations** – For the generator to be considered an emergency stationary internal combustion engine (ICE) for purposes of 40 CFR 60 Subpart JJJJ, the permittee must operate the emergency stationary ICE according to the requirements in (a) through (c) below. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in (a) through (c) below is prohibited. If the permittee does not operate the engine according to the requirements in (a) through (c) below, the engine will not be considered an emergency engine under 40 CFR 60 Subpart JJJJ and must meet all requirements for non-emergency engines.

    a. There is no time limit on the use of emergency stationary ICE in emergency situations.

    b. The permittee may operate the emergency stationary ICE for the following purpose for a maximum of 100 hours per calendar year: Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Environmental Protection Agency for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. Any operation for non-emergency situations as allowed by (c) counts as part of the 100 hours per calendar year allowed by this condition (b).

    c. Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (b) of this section. Except as provided in this paragraph, the 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

    (9VAC5-80-110, 40 CFR 60.4243(d) and 40 CFR 63 Subpart ZZZZ)

25. **Fuel Burning Equipment Requirements - (G3) - Limitations** - Visible Emissions from the emergency generator stack shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity.
    (9VAC5-50-80 and 9VAC5-80-110)

26. **Fuel Burning Equipment Requirements (E03 – E06, G3) - Limitations** – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions:

    The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to the facility's air pollution control equipment and process equipment which affects such emissions:

    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance;

    b. Maintain an inventory of spare parts;

    c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum; and

    d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

    (9VAC5-80-110, 40 CFR 60.4243(b)(2)(ii), 40 CFR 63 Subpart ZZZZ and Condition 66 of the 1/31/17 Permit)

27. **Fuel Burning Equipment Requirements - (E03 – E06, G3) - Monitoring** - The permittee shall use the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content for the natural gas being fired at the natural gas compressor station facility is 20 grains of sulfur or less per 100 standard cubic feet, and has potential sulfur emissions of less than 0.060 lb SO_2/MMBtu heat input. A standard cubic foot is defined as a cubic foot of gas at standard conditions as specified in 40 CFR 72.2 (68° F and 29.92 inches Hg).
    (9VAC5-80-110, 40 CFR 60.4365(a) and Condition 9 of 1/31/17 Permit)

28. **Fuel Burning Equipment Requirements – (G3) – Monitoring** - The emergency generator engine shall be equipped with a non-resettable hour meter to continuously measure hours of operation. The monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The monitoring device shall be provided with adequate access for inspection and shall be in operation when the emergency generator engine is operating.
    (9VAC5-80-110, 40 CFR 60.4237(a) and Condition 11 of 1/31/17 Permit)

29. **Fuel Burning Equipment Requirements – (E03 – E06) – Monitoring –** For the purposes of Conditions 30 through 34, 36, and 45, fugitive emissions are defined as: Any visible

emission from a fugitive emissions component observed using optical gas imaging or an instrument reading of 500 ppm or greater using 40 CFR 60, Appendix A-7, Method 21. (9VAC5-80-110 and 40 CFR 60.5397a(a)).

30. **Fuel Burning Equipment Requirements – (E03 – E06) – Monitoring –** The permittee shall develop an emissions monitoring plan that covers the collection of fugitive emissions components at the compressor station within each company-defined area in accordance with the following.

    a. Fugitive emissions monitoring plans must include the elements specified in paragraphs i through viii below, at a minimum.

        i. Frequency for conducting surveys. Surveys must be conducted at least as frequently as required by Condition 32.

        ii. Technique for determining fugitive emissions (i.e., 40 CFR 60, Appendix A-7, Method 21, or optical gas imaging).

        iii. Manufacturer and model number of fugitive emissions detection equipment to be used.

        iv. Procedures and timeframes for identifying and repairing fugitive emissions components from which fugitive emissions are detected, including timeframes for fugitive emission components that are unsafe to repair. The repair schedule shall meet the requirements of Condition 33 at a minimum.

        v. Procedures and timeframes for verifying fugitive emission component repairs.

        vi. Records that will be kept and the length of time records will be kept.

        vii. If the permittee is using optical gas imaging, the plan must also include the elements specified in 40 CFR 60.5397a(c)(7)(i) through (vii).

        viii. If the permittee is using 40 CFR 60, Appendix A-7, Method 21, the plan must also include the elements specified in 40 CFR 60.5397a(c)(8)(i) and (ii). For the purposes of complying with the fugitive emissions monitoring program using Method 21 a fugitive emission is defined as an instrument reading of 500 ppm or greater.

    b. Each fugitive emissions monitoring plan must include the elements specified in i through iv below, at a minimum, as applicable.

        i. Sitemap.

        ii. A defined observation path that ensures that all fugitive emissions components are within sight of the path. The observation path must account for interferences.

iii. If the permittee is using Method 21, the plan must also include a list of fugitive emissions components to be monitored and method for determining location of fugitive emissions components to be monitored in the field (e.g. tagging, identification on a process and instrumentation diagram, etc.).

iv. The plan must also include the written plan developed for all of the fugitive emission components designated as difficult-to-monitor in accordance with Condition 32.b.i, and the written plan for fugitive emission components designated as unsafe-to-monitor in accordance with Condition 32.c.i.

(9VAC5-80-110 and 40 CFR 60.5397a(b), 40 CFR 60.5397a(c) and 40 CFR 60.5397a(d))

31. **Fuel Burning Equipment Requirements – (E03 – E06) – Monitoring -** Each monitoring survey shall observe each fugitive emissions component, as defined in 40 CFR 60.5430a, for fugitive emissions.
(9VAC5-80-110 and 40 CFR 60.5397a(e))

32. **Fuel Burning Equipment Requirements – (E03 – E06) – Monitoring -** A monitoring survey of each collection of fugitive emissions components at a compressor station must be performed at the frequencies specified below in a, with the exceptions noted in b and c.

a. A monitoring survey of the collection of fugitive emissions components at a compressor station within a company-defined area must be conducted at least quarterly after the initial survey. Consecutive quarterly monitoring surveys must be conducted at least 60 days apart.

b. Fugitive emissions components that cannot be monitored without elevating the monitoring personnel more than 2 meters above the surface may be designated as difficult-to-monitor. Fugitive emissions components that are designated difficult-to-monitor must meet the specifications of i through iv below.

i. A written plan shall be developed for all of the fugitive emissions components designated difficult-to-monitor. This written plan shall be incorporated into the fugitive emissions monitoring plan required by Condition 30.

ii. The plan shall include the identification and location of each fugitive emissions component designated as difficult-to-monitor.

iii. The plan shall include an explanation of why each fugitive emissions component designated as difficult-to-monitor is difficult-to-monitor.

iv. The plan shall include a schedule for monitoring the difficult-to-monitor fugitive emissions components at least once per calendar year.

c. Fugitive emissions components that cannot be monitored because monitoring personnel would be exposed to immediate danger while conducting a monitoring survey may be designated as unsafe-to-monitor. Fugitive emissions components that are designated unsafe-to-monitor shall meet the specifications of i through iv below.

i. A written plan shall be developed for all of the fugitive emissions components designated unsafe-to-monitor. This written plan shall be incorporated into the fugitive emissions monitoring plan required by Condition 30.

ii. The plan shall include the identification and location of each fugitive emissions component designated as unsafe-to-monitor.

iii. The plan shall include an explanation of why each fugitive emissions component designated as unsafe-to-monitor is unsafe-to-monitor.

iv. The plan shall include a schedule for monitoring the fugitive emissions components designated as unsafe-to-monitor.

(9VAC5-80-110 and 40 CFR 60.5397a(g))

33. **Fuel Burning Equipment Requirements – (E03 – E06) – Monitoring -** Each identified source of fugitive emissions shall be repaired or replaced in accordance with a and b below. For fugitive emissions components also subject to the repair provisions of 40 CFR 60.5416a(b)(9) through (12) and (c)(4) through (7), those provisions apply instead to those closed vent system and covers, and the repair provisions of a and b below do not apply to those closed vent systems and covers.

a. Each identified source of fugitive emissions shall be repaired or replaced as soon as practicable, but no later than 30 calendar days after detection of the fugitive emissions.

b. If the repair or replacement is technically infeasible, would require a vent blowdown, a compressor station shutdown, or would be unsafe to repair during operation of the unit, the repair or replacement shall be completed during the next scheduled compressor station shutdown, after a planned vent blowdown or within 2 years, whichever is earlier.

c. Each repaired or replaced fugitive emissions component shall be resurveyed as soon as practicable, but no later than 30 days after being repaired, to ensure that there are no fugitive emissions.

i. For repairs that cannot be made during the monitoring survey when the fugitive emissions are initially found, the permittee may resurvey the repaired fugitive emissions components using either 40 CFR 60, Appendix A-7, Method 21 or optical gas imaging within 30 days of finding such fugitive emissions.

ii. For each repair that cannot be made during the monitoring survey when the fugitive emissions are initially found, a digital photograph shall be taken of that component or the component shall be tagged for identification purposes. The digital photograph shall include the date that the photograph was taken, shall clearly identify the component by location within the site (e.g., the latitude and longitude of the component or by other descriptive landmarks visible in the picture).

iii. Operators that use 40 CFR 60 Appendix A-7, Method 21 to resurvey the repaired fugitive emissions components are subject to the resurvey provisions specified in (1) and (2) below.

(1) A fugitive emissions component is repaired when the Method 21 instrument indicates a concentration of less than 500 ppm above background or when no soap bubbles are observed when the alternative screening procedures specified in section 8.3.3 of Method 21 are used.

(2) Operators must use the Method 21 monitoring requirements specified in 40 CFR 60.5397a(c)(8)(ii) or the alternative screening procedures specified in section 8.3.3 of Method 21.

iv. Operators that use optical gas imaging to resurvey the repaired fugitive emissions components, are subject to the resurvey provisions specified in (1) and (2) below.

(1) A fugitive emissions component is repaired when the optical gas imaging instrument shows no indication of visible emissions.

(2) Operators must use the optical gas imaging monitoring requirements specified in Condition 30.a.vii.

(9VAC5-80-110 and 40 CFR 60.5397a(h))

34. **Fuel Burning Equipment Requirements – (E03 – E06) – Monitoring -** For each collection of fugitive emissions components at a compressor station, the permittee shall demonstrate continuous compliance with the fugitive emission standards specified in 40 CFR 60.5397a (Condition 29) according to a through d below.

a. The permittee shall conduct periodic monitoring surveys as required in Condition 32.

b. The permittee shall repair or replace each identified source of fugitive emissions as required in Condition 33.

c. The permittee shall maintain records as specified in Condition 36.

d. The permittee shall submit annual reports for each collection of fugitive emissions components at a compressor station as required in Condition 45.

(9VAC5-80-110 and 40 CFR 60.5415a(h))

35. **Fuel Burning Equipment Requirements – (E03 – E06, G3) - Recordkeeping** - The permittee shall maintain records of emissions data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:

    a. Fuel analysis records or supplier certifications sufficient to demonstrate compliance with Conditions 6, 7, and 27.

    b. Annual hours of operation for the emergency generator (G3), calculated monthly as required by Condition 8.

    c. Records to document compliance with applicable emission limits of 40 CFR 60 Subpart KKKK, as required by Condition 9.

    d. Annual emissions calculations for the turbine (E03), calculated monthly as required by Condition 11.

    e. Annual emissions calculations for the turbines (E04 and E05), calculated monthly as required by Condition 13.

    f. Annual emissions calculations for the turbine (E06), calculated monthly as required by Condition 15.

    g. Annual emissions calculations for the emergency generator (G3), calculated monthly as required by Condition 16.

    h. Date, time, and the hours of duration for each turbine's (E03, E04, E05, and E06) operational modes, as follows: Normal Load @ 0 °F, Low Temperature mode from < 0° F to -20° F, and Low Load operation (< 50%) periods.

    i. Annual count of start-up and shutdown events for each of the turbines (E04, E05 and E06), calculated monthly as required by Condition 21.

    j. Annual count of start-up and shutdown events for the turbine (E03), calculated monthly as required by Condition 22.

    k. Results of all performance tests and visible emission evaluations.

    l. Records of malfunctions as required in Condition 55.

    m. Required training including a statement of time, place and nature training provided.

n. Written operating procedures, scheduled and unscheduled maintenance and training records, as required by Conditions 4 and 26.

o. All notifications submitted to comply with 40 CFR 60 Subpart JJJJ and all documentation supporting any notification.

p. Maintenance conducted on the generator (G3).

q. If the generator (G3) is not a certified engine, documentation that the engine meets the emission standards.

r. If the generator (G3) does not meet the standards applicable to non-emergency engines, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.

s. The daily and annual throughput of natural gas (in million cubic feet) for each turbine (E03 – E06). The annual throughput shall be calculated as the sum of each consecutive 12-month period.

t. All fuel supplier certifications.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9VAC5-80-110, 40 CFR 60.4245(a) and (b), 40 CFR 63 Subpart ZZZZ and Condition 29 of 1/31/17 Permit)

36. **Fuel Burning Equipment Requirements – (E03 – E06) – Recordkeeping** – The permittee shall maintain the following records. All records required by this subpart shall be maintained either onsite or at the nearest local field office for at least 5 years. Any records required to be maintained by 40 CFR 60 Subpart OOOOa that are submitted electronically via the EPA's CDX may be maintained in electronic format.

a. The fugitive emissions monitoring plan as required in Condition 30.

b. The records of each monitoring survey as specified in i through ix below.

i. Date of the survey.

ii. Beginning and end time of the survey.

iii. Name of operator(s) performing survey. The permittee shall note the training and experience of the operator.

iv. Monitoring instrument used.

v. When optical gas imaging is used to perform the survey, one or more digital photographs or videos, captured from the optical gas imaging instrument used for conduct of monitoring, of each required monitoring survey being performed. The digital photograph must include the date the photograph was taken and the latitude and longitude of the collection of fugitive emissions components at a compressor station imbedded within or stored with the digital file. As an alternative to imbedded latitude and longitude within the digital file, the digital photograph or video may consist of an image of the monitoring survey being performed with a separately operating GPS device within the same digital picture or video, provided the latitude and longitude output of the GPS unit can be clearly read in the digital image.

vi. Fugitive emissions component identification when 40 CFR 60, Appendix A-7, Method 21 is used to perform the monitoring survey.

vii. Ambient temperature, sky conditions, and maximum wind speed at the time of the survey.

viii. Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.

ix. Documentation of each fugitive emission, including the information specified in (1) through (12) below.

(1) Location.

(2) Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.

(3) Number and type of components for which fugitive emissions were detected.

(4) Number and type of difficult-to-monitor and unsafe-to-monitor fugitive emission components monitored.

(5) Instrument reading of each fugitive emissions component that requires repair when 40 CFR 60, Appendix A-7, Method 21 is used for monitoring.

(6) Number and type of fugitive emissions components that were not repaired as required in Condition 33.

(7) Number and type of components that were tagged as a result of not being repaired during the monitoring survey when the fugitive emissions were initially found as required in Condition 33.c.ii.

(8) If a fugitive emissions component is not tagged, a digital photograph or video of each fugitive emissions component that could not be repaired during the monitoring survey when the fugitive emissions were initially found as required in Condition 33.c.ii. The digital photograph or video must clearly identify the location of the component that must be repaired. Any digital photograph or video required under this paragraph can also be used to meet the requirements under Condition 45.b.v, as long as the photograph or video is taken with the optical gas imaging instrument, includes the date and the latitude and longitude are either imbedded or visible in the picture.

(9) Repair methods applied in each attempt to repair the fugitive emissions components.

(10) Number and type of fugitive emission components placed on delay of repair and explanation for each delay of repair.

(11) The date of successful repair of the fugitive emissions component.

(12) Instrumentation used to resurvey a repaired fugitive emissions component that could not be repaired during the initial fugitive emissions finding.

c. If a monitoring survey is waived under Condition 32, the permittee shall maintain records of the average calendar month temperature, including the source of the information, for each calendar month of the quarterly monitoring period for which the monitoring survey was waived.

(9VAC5-80-110, 40 CFR 60.5397a(i), 40 CFR 60.5415a(h)(3) and 40 CFR 60.5420a(c)(15))

37. **Fuel Burning Equipment Requirements – (E03 – E06) - Testing** – Annual Performance Test – Annual tests shall be conducted on each turbine for sulfur dioxide (SO_2) to determine compliance with the limits contained in Condition 7. The permittee may use one of the following three methods (a., b., or c. below) to conduct the performance test:

a. If the permittee chooses to periodically determine the sulfur content of the fuel combusted in the turbine, a representative fuel sample would be collected following ASTM D5287 (incorporated by reference, see 40 CFR 60.17) for natural gas. The fuel analyses may be performed either by the permittee, a service contractor retained by the permittee, the fuel vendor, or any other qualified person. The samples for the total sulfur content of the fuel shall be analyzed using ASTM D1072, or alternatively D3246, D4084, D4468, D4810, D6228, D6667, or Gas Processors Association Standard 2377 (all of which are incorporated by reference, see 40 CFR 60.17).

b. 40 CFR 60, Appendix A, Methods 6, 6C, 8, or 20 shall be used to measure the SO_2 concentration (in parts per million (ppm)). In addition, the American Society of Mechanical Engineers (ASME) standard, ASME PTC 9–10–1981–Part 10, “Flue and

Exhaust Gas Analyses," manual methods for sulfur dioxide (incorporated by reference, see 40 CFR 60.17) can be used instead of EPA Methods 6 or 20.

c. 40 CFR 60, Appendix A, Methods 6, 6C, or 8 and 3A, or 20 shall be used to measure the SO_2 and diluent gas concentrations. In addition, the permittee may use the manual methods for sulfur dioxide ASME PTC 19–10–1981–Part 10 (incorporated by reference, see 40 CFR 60.17).

The tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test). Tests shall be conducted and reported and data reduced as set forth in 9VAC5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9VAC5-50-410. The details of the tests are to be arranged with the DEQ. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the DEQ within 45 days after test completion and shall conform to the test report format enclosed with this permit. If fuel sampling is used to comply with the annual test for SO_2, then no test protocol or test report is required.
(9VAC5-80-490 E, 9VAC5-80-490 F and 40 CFR 60.4415(a))

38. **Fuel Burning Equipment Requirements – (E03 – E06) – Testing** - The facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Sampling ports, safe sampling platforms, and access at the appropriate locations shall be provided when requested.
(9VAC5-80-110 and Condition 1 of 1/31/17 Permit)

39. **Fuel Burning Equipment Requirements – (E03 – E06) – Testing** - NO_x performance tests shall be conducted on an annual basis (no more than 14 calendar months following the previous performance test) on the turbines in accordance with the requirements of 40 CFR 60.4400 to determine compliance with the emission limits contained in Condition 10 (E03), Condition 12 (E04 and E05), and Condition 14 (E06). If the NO_x emission result from the performance test is less than or equal to 75 percent of the NO_x emission limit for the turbine, the permittee may reduce the frequency of subsequent performance tests to once every 2 years (no more than 26 calendar months following the previous performance test). If the results of any subsequent performance test exceed 75 percent of the NO_x emission limit for the turbine, the permittee must resume annual performance tests. The details of the tests shall be arranged with the DEQ.
(9VAC5-80-110, 40 CFR 60.4340(a) and Condition 27 of 1/31/17 Permit)

40. **Fuel Burning Equipment Requirements – (G3) – Testing** - The permittee shall conduct performance testing on the emergency generator every 8,760 hours or 3 years, whichever comes first, to demonstrate compliance with the standards in 40 CFR 60 Subpart JJJJ (Condition 19). Performance tests shall be conducted according to the specifications in 40 CFR 60.4244.
(9VAC5-80-110, 40 CFR 60.4243(b)(2)(ii) and 40 CFR 63 Subpart ZZZZ)

41. **Fuel Burning Equipment Requirements – (E03 – E06) - Testing** - No less frequent than once each permit term, and upon request by the DEQ, the permittee shall perform additional performance tests on Unit E03; on Unit E04 or Unit E05; and on Unit E06. Testing shall be conducted for CO using the appropriate EPA Reference Method(s).

    Testing shall be conducted on E03 and on E06 for each permit term. Testing for E04 and E05 may alternate such that testing on one unit (E04 or E05) will satisfy the testing requirements for the other unit (E04 or E05). During the subsequent permit terms, the permittee shall conduct performance testing on the alternate unit (E04 or E05) on a rotating basis.

    Tests shall be conducted to determine compliance with the applicable emission limits contained in Conditions 10, 12, and 14. The details of the tests are to be arranged with the DEQ. The permittee shall submit a test protocol at least 30 days prior to testing. Samples taken as required by this permit shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories. One copy of the test results shall be submitted to the DEQ within 60 days after test completion and shall conform to the test report format enclosed with this permit.
    (9VAC5-80-110)

42. **Fuel Burning Equipment Requirements – (E03 – E06) – Testing** - Upon request by the DEQ, the permittee shall conduct Visible Emission Evaluations (VEE) from any of all of the four turbines to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the DEQ.
    (9VAC5-80-110 and Condition 28 of 1/31/17 Permit)

43. **Fuel Burning Equipment Requirements - (E03 – E06) - Reporting** - The permittee shall submit a written report of the results of each annual performance test performed in accordance with 40 CFR 60.4340(a) to the DEQ by the 60th day following the completion of the performance test. One copy of the report shall be submitted to the U.S. Environmental Protection Agency at the address specified below:

    Chief, Air Section
    Enforcement & Compliance Assurance Division
    Air, RCRA & Toxics Branch
    U.S. EPA Region 3
    1650 Arch Street - 3ED21
    Philadelphia, PA 19103-2029

    (9VAC5-80-110, 40 CFR 60.4375(b) and Condition 30 of 1/31/17 Permit)

44. **Fuel Burning Equipment Requirements – (G3) – Reporting** - Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in 40 CFR 60.4231 must submit an initial

notification as required in 40 CFR 60.7(a)(1). The notification must include the information in (a) through (e):

a. Name and address of the owner or operator;

b. The address of the affected source;

c. Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

d. Emission control equipment; and

e. Fuel used.

(9VAC5-80-110, 9VAC5-50-410, 40 CFR 60.4245(c) and 40 CFR 63 Subpart ZZZZ)

45. **Fuel Burning Equipment Requirements – (E03 – E06) – Reporting** – The permittee shall submit annual reports containing the information specified in a and b below. The permittee shall submit annual reports following the procedure specified in c below. Annual reports are due no later than January 30th. If the permittee owns or operates more than one affected facility, one report may be submitted for multiple affected facilities provided the report contains all of the information required as specified in a and b below. Annual reports may coincide with title V reports as long as all the required elements of the annual report are included. The permittee may arrange with the EPA a common schedule on which reports required by 40 CFR 60 may be submitted as long as the schedule does not extend the reporting period.

    a. The general information specified in i through iv below for all reports.

        i. The company name, facility site name associated with the affected facility, and address of the affected facility. If an address is not available for the site, include a description of the site location and provide the latitude and longitude coordinates of the site in decimal degrees to an accuracy and precision of five (5) decimals of a degree using the North American Datum of 1983.

        ii. An identification of each affected facility being included in the annual report.

        iii. Beginning and ending dates of the reporting period.

        iv. A certification by a certifying official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

    b. For the collection of fugitive emissions components at each compressor station within the company-defined area, the records of each monitoring survey including the

information specified in i through xii below. For the collection of fugitive emissions components at a compressor station, if a monitoring survey is waived under Condition 32, the permittee shall include in the annual report the fact that a monitoring survey was waived and the calendar months that make up the quarterly monitoring period for which the monitoring survey was waived.

i. Date of the survey.

ii. Beginning and end time of the survey.

iii. Name of operator(s) performing survey. If the survey is performed by optical gas imaging, the permittee shall note the training and experience of the operator.

iv. Ambient temperature, sky conditions, and maximum wind speed at the time of the survey.

v. Monitoring instrument used.

vi. Any deviations from the monitoring plan or a statement that there were no deviations from the monitoring plan.

vii. Number and type of components for which fugitive emissions were detected.

viii. Number and type of fugitive emissions components that were not repaired as required in Condition 33.

ix. Number and type of difficult-to-monitor and unsafe-to-monitor fugitive emission components monitored.

x. The date of successful repair of the fugitive emissions component.

xi. Number and type of fugitive emission components placed on delay of repair and explanation for each delay of repair.

xii. Type of instrument used to resurvey a repaired fugitive emissions component that could not be repaired during the initial fugitive emissions finding.

c. The permittee shall submit reports to the EPA via the CEDRI. (CEDRI can be accessed through the EPA's CDX (https://cdx.epa.gov/).) The permittee shall use the appropriate electronic report in CEDRI for 40 CFR 60 Subpart OOOOa or an alternate electronic file format consistent with the extensible markup language (XML) schema listed on the CEDRI Web site (https://www3.epa.gov/ttn/chief/cedri/). If the reporting form specific to 40 CFR 60 Subpart OOOOa is not available in CEDRI at the time that the report is due, the permittee shall submit the report to the EPA at the appropriate address listed in 40 CFR 60.4. Once the form has been available in CEDRI for at least 90 calendar days, the permittee shall begin submitting all subsequent reports via

CEDRI. The reports shall be submitted by the deadlines specified in 40 CFR 60 Subpart OOOOa, regardless of the method in which the reports are submitted.

(9VAC5-80-110, 40 CFR 60.5397a(j), 40 CFR 60.5415a(h)(4) and 40 CFR 60.5420a(b))

Insignificant Emission Units

46. **Insignificant Emission Units** - The following emission units at the facility are identified in the application as insignificant emission units under 9VAC5-80-720:

Emissions Unit Number	Emissions Unit Description	Citation	Pollutant(s) Emitted (9VAC5-80-720 B)	Rated Capacity (9VAC5-80-720 C)
A01	Pipeline Liquids Tank	9VAC5-80-720C	-	2,000 gal
A02	Pipeline Liquids Tank	9VAC5-80-720C	-	1,250 gal
A03	Pipeline Liquids Tank	9VAC5-80-720C	-	1,250 gal
A06	Wastewater Tank	9VAC5-80-720C	-	1,000 gal
H1	Fuel Gas Heater #1	9VAC5-80-720C	-	0.75 MMBtu/hr
H2	Fuel Gas Heater #2	9VAC5-80-720C	-	0.30 MMBtu/hr
H3	Fuel Gas Heater #3	9VAC5-80-720C	-	0.25 MMBtu/hr
C01	Used Oil Tank	9VAC5-80-720C	-	300 gal
SH1	Comfort Heaters (24)	9VAC5-80-720C	-	1.728 MMBtu/hr (total)
SH2	Comfort Heaters (35)	9VAC5-80-720C	-	2.386 MMBtu/hr (total)

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9VAC5-80-110. (9VAC5-80-110)

Permit Shield & Inapplicable Requirements

47. **Permit Shield & Inapplicable Requirements** - Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
40 CFR 64	Compliance Assurance Monitoring (CAM)	Strasburg Compressor Station does not use add-on control devices; accordingly, it is not subject to CAM.
40 CFR 60 Subpart GG	Standards of Performance for Stationary Gas Turbines	Per 40 CRR 60.4305(b), turbines subject to 40 CFR 60 Subpart KKKK are exempt from the requirements of 40 CFR 60 Subpart GG
40 CFR 60 Subpart OOOO	Standards of Performance for Crude Oil & Natural Gas Production, Transmission & Distribution	The turbines are not subject to Subpart OOOO per 40 CFR 60.5365 because they are part of a natural gas transmission facility. Strasburg Compressor Station is not involved in natural gas production.
40 CFR 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	The generator is not subject because it is not compression-ignition fired.
40 CFR 63 Subpart HHH	National Emissions Standards for Hazardous Air Pollutants from Natural Gas Transmission & Storage Facilities	Applicable to subject units at major HAP sources; Strasburg Compressor Stations is not a major HAP source
40 CFR 63 Subpart YYYY	National Emissions Standards for Hazardous Air Pollutants from Stationary Combustion Turbines	Applicable to turbines at major HAP sources; Strasburg Compressor Stations is not a major HAP source

There are no applicable Greenhouse Gas (GHG) permitting requirements.

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by (i) the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9VAC5-80-110 and 9VAC5-80-140)

General Conditions

48. **General Conditions - Federal Enforceability** - All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9VAC5-80-110)

49. **General Conditions - Permit Expiration**

    a. This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9VAC5-80-80, the right of the facility to operate shall be terminated upon permit expiration.

    b. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.

    c. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9VAC5 Chapter 80, until the Board takes final action on the application under 9VAC5-80-150.

    d. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9VAC5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9VAC5 Chapter 80.

    e. If an applicant submits a timely and complete application under section 9VAC5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9VAC5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.

    f. The protection under subsections F 1 and F 5 (ii) of section 9VAC5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9VAC5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

    (9VAC5-80-80, 9VAC5-80-110 and 9VAC5-80-170)

50. **General Conditions -Recordkeeping and Reporting** - All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

a. The date, place as defined in the permit, and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of such analyses; and

f. The operating conditions existing at the time of sampling or measurement.

(9VAC5-80-110)

51. **General Conditions -Recordkeeping and Reporting** - Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. (9VAC5-80-110)

52. **General Conditions -Recordkeeping and Reporting** - The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9VAC5-80-80 G, and shall include:

    a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31; and

    b. All deviations from permit requirements. For purpose of this permit, deviations include, but are not limited to:

        i. Exceedances of emissions limitations or operational restrictions;

        ii. Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or Compliance Assurance Monitoring (CAM) which indicates an exceedance of emission limitations or operational restrictions; or,

        iii. Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

    c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

    (9VAC5-80-110)

53. **General Conditions - Annual Compliance Certification** - Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than March 1 each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices for the period ending December 31. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. The permittee shall maintain a copy of the certification for five (5) years after submittal of the certification. This certification shall be signed by a responsible official, consistent with 9VAC5-80-80 G, and shall include:

    a. The time period included in the certification. The time period to be addressed is January 1 to December 31;

    b. The identification of each term or condition of the permit that is the basis of the certification;

    c. The compliance status;

    d. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance;

    e. Consistent with subsection 9VAC5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period;

    f. Such other facts as the permit may require to determine the compliance status of the source; and

    g. One copy of the annual compliance certification shall be submitted to EPA in electronic format only. The certification document should be sent to the following electronic mailing address:

        R3_APD_Permits@epa.gov

    (9VAC5-80-110)

54. **General Conditions - Permit Deviation Reporting** - The permittee shall notify the Valley Regional Office within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit deviation. Owners subject to the requirements of 9VAC5-40-50 C or 9VAC5-50-50 C are not required to provide the written statement prescribed in this paragraph for

facilities subject to the monitoring requirements of 9VAC5-40-40 or 9VAC5-50-40. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to Condition 52 of this permit.
(9VAC5-80-110 F. 2)

55. **General Conditions - Failure/Malfunction Reporting** - In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall no later than four daytime business hours after the malfunction is discovered, notify the Valley Regional Office such failure or malfunction and within 14 days provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9VAC5-40-50 C or 9VAC5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9VAC5-40-40 or 9VAC5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the Valley Regional Office.
(9VAC5-80-110 and 9VAC5-20-180)

56. **General Conditions - Failure/Malfunction Reporting** - The emission units that have continuous monitors subject to 9VAC5-40-50 C or 9VAC5-50-50 C are not subject to the 14 day written notification.
(9VAC5-20-180 and 9VAC5-50-50)

57. **General Conditions - Failure/Malfunction Reporting** - The emission units subject to the reporting and the procedure requirements of 9VAC5-40-50 C and the procedures of 9VAC5-50-50 C are: Emergency Generator (G3)
(9VAC5-80-110, 9VAC5-20-180 C and 9VAC5-50-50)

58. **General Conditions - Failure/Malfunction Reporting** - Each owner required to install a continuous monitoring system (CMS) or monitoring device subject to 9VAC5-40-41 or 9VAC5-50-410 shall submit a written report of excess emissions (as defined in the applicable subpart in 9VAC5-50-410) and either a monitoring systems performance report or a summary report form, or both, to the board semiannually. All semi-annual reports shall be postmarked by the 30th day following the end of each calendar semi-annual period (June 30th and January 30th). All reports shall include the following information:

    a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9VAC5-40-41 B.6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions;

    b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;

c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and
d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.

All malfunctions of emission units not subject to 9VAC5-40-50 C or 9VAC5-50-50 C require written reports within 14 days of the discovery of the malfunction.
(9VAC5-80-110, 9VAC5-20-180 C and 9VAC5-50-50)

59. **General Conditions - Severability** - The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9VAC5-80-110)

60. **General Conditions - Duty to Comply** - The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is ground for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9VAC5-80-110)

61. **General Conditions - Need to Halt or Reduce Activity not a Defense** - It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9VAC5-80-110)

62. **General Conditions - Permit Modification** - A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9VAC5-80-50, 9VAC5-80-1100, 9VAC5-80-1605, or 9VAC5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios.
(9VAC80-110, 9VAC5-80-190 and 9VAC5-80-260)

63. **General Conditions - Property Rights** - The permit does not convey any property rights of any sort, or any exclusive privilege.
(9VAC5-80-110)

64. **General Conditions - Duty to Submit Information** - The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information

claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
(9VAC5-80-110)

65. **General Conditions - Duty to Submit Information** - Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9VAC5-80-80 G.
(9VAC5-80-110)

66. **General Conditions - Duty to Pay Permit Fees** - The owner of any source for which a permit under 9VAC5-80-50 through 9VAC5-80-300 was issued shall pay permit fees consistent with the requirements of 9VAC5-80-310 through 9VAC5-80-350 in addition to an annual permit maintenance fee consistent with the requirements of 9VAC5-80-2310 through 9VAC5-80-2350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department. The amount of the annual permit maintenance fee shall be the largest applicable base permit maintenance fee amount from Table 8-11A in 9VAC5-80-2340, adjusted annually by the change in the Consumer Price Index.
(9VAC5-80-110, 9VAC5-80-340 and 9VAC5-80-2340)

67. **General Conditions - Fugitive Dust Emission Standards** - During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

    a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

    b. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

    c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or similar operations;

    d. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

e. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9VAC5-50-90 and 9VAC5-80-110)

68. **General Conditions - Startup, Shutdown, and Malfunction** - At all times, including periods of startup, shutdown, and soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(9VAC5-50-20 E and 9VAC5-80-110)

69. **General Conditions - Alternative Operating Scenarios** - Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9VAC5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9VAC5 Chapter 80, Article 1.
(9VAC5-80-110)

70. **General Conditions - Inspection and Entry Requirements** - The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

a. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

d. Sample or monitor at reasonable times' substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9VAC5-80-110)

71. **General Conditions - Reopening for Cause** - The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining

permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9VAC5-80-80 F. The conditions for reopening a permit are as follows:

a. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

b. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

c. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9VAC5-80-110 D.

(9VAC5-80-110)

72. **General Conditions - Permit Availability** - Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request. (9VAC5-80-110 and 9VAC5-80-150)

73. **General Conditions - Transfer of Permits**

a. No person shall transfer a permit from one location to another, unless authorized under 9VAC5-80-130, or from one piece of equipment to another.

b. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9VAC5-80-200.

c. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9VAC5-80-200.

(9VAC5-80-110 and 9VAC5-80-160)

74. **General Conditions - Permit Revocation or Termination for Cause** - A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any

applicable requirements, or the applicable provisions of 9VAC5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe any permit for any grounds for revocation or termination or for any other violations of these regulations.
(9VAC5-80-110, 9VAC5-80-190 C and 9VAC5-80-260)

75. **General Conditions - Duty to Supplement or Correct Application** - Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9VAC5-80-110 and 9VAC5-80-80 E)

76. **General Conditions - Stratospheric Ozone Protection** - If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(9VAC5-80-110 and 40 CFR Part 82)

77. **General Conditions - Asbestos Requirements** - The permittee shall comply with the requirements of National Emissions Standards for Hazardous Air Pollutants (40 CFR 61) Subpart M, National Emission Standards for Asbestos as it applies to the following: Standards for Demolition and Renovation (40 CFR 61.145), Standards for Insulating Materials (40 CFR 61.148), and Standards for Waste Disposal (40 CFR 61.150).
(9VAC5-60-70 and 9VAC5-80-110)

78. **General Conditions - Accidental Release Prevention** - If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(9VAC5-80-110 and 40 CFR Part 68)

79. **General Conditions - Changes to Permits for Emissions Trading** - No permit revision shall be required under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
(9VAC5-80-110)

80. **General Conditions - Emissions Trading** - Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

    a. All terms and conditions required under 9VAC5-80-110, except subsection N, shall be included to determine compliance.

b. The permit shield described in 9VAC5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.

c. The owner shall meet all applicable requirements including the requirements of 9VAC5-80-50 through 9VAC5-80-300.

(9VAC5-80-110)

State-Only Enforceable Requirements

The following terms and conditions are not required under the federal Clean Air Act or under any of its applicable federal requirements, and are not subject to the requirements of 9VAC5-80-290 concerning review of proposed limits by EPA and draft permits by affected states.

81. **Emission Controls (Formaldehyde)** – Formaldehyde emissions from the turbines (E03, E04, E05, and E06) shall be controlled by good combustion practices, operator training, and maintenance.
(9VAC5-80-110 and Condition 31 of 1/31/17 Permit)

82. **Emission Limits (Formaldehyde)** – Formaldehyde emissions from the operation of the turbines (E03, E04, E05, and E06) shall not exceed the limits specified below.

Formaldehyde (50-00-0):	0.36 lb/hr	1.48 tons/yr

The hourly emissions are combined emissions during normal load at ambient temperatures of 0 °F and greater. Annual emissions are combined emissions during all operating conditions and shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition 81.
(9VAC5-80-110 and Condition 32 of 1/31/17 Permit)

83. **On-Site Records –** The permittee shall maintain records of emissions data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to annual emissions of formaldehyde from the turbines (E03, E04, E05, and E06), calculated monthly as the sum of each consecutive 12-month period, as required by Condition 82.
(9VAC5-80-110 and Condition 33 of 1/31/17 Permit)

Turbines' (E03, E04, E05, and E06) Short-Term Emission Limits in Non-Standard Operating Modes

Turbine (E03) Short-Term Emission Limits in Non-Standard Operating Modes[1]

Operational Mode	Pollutant Emission Rate (lb/hr)		
	NO_x	CO	VOC
Low Temperature (< 0 to -20 °F)	24.19	35.05	2.00
Low Load Operation (< 50%)	20.97	850.77	9.72
Start-up / Shutdown (lb/event)[2]	4.3	384.5	4.4

[1] – Non-standard operating mode is any mode in which the turbine (E03) may operate other than Normal Load.

[2] – The emissions from one event are equal to the sum of the emissions from one start-up and one shutdown.

Turbines (E04 and E05) Short-Term Emission Limits in Non-Standard Operating Modes[1]

Operational Mode	Pollutant Emission Rate (lb/hr)		
	NO_x	CO	VOC
Low Temperature (< 0 to -20 °F)	14.71	21.32	1.22
Low Load Operation (< 50%)	14.45	586.42	6.70
Start-up / Shutdown (lb/event)[2]	1.90	166.50	1.90

[1] – Non-standard operating mode is any mode in which the turbines (E04 and E05) may operate other than Normal Load.

[2] – The emissions from one event are equal to the sum of the emissions from one start-up and one shutdown.

Turbine (E06) Short-Term Emission Limits in Non-Standard Operating Modes[1]

Operational Mode	Pollutant Emission Rate (lb/hr)		
	NO_x	CO	VOC
Low Temperature (< 0 to -20 °F)	21.84	31.66	1.81
Low Load Operation (< 50%)	16.10	653.41	7.47
Start-up / Shutdown (lb/event)[2]	3.10	272.70	3.12

[1] – Non-standard operating mode is any mode in which the turbine (E06) may operate other than Normal Load.

[2] – The emissions from one event are equal to the sum of the emissions from one start-up and one shutdown.

Turbine (E03 - premodification) Short-Term Emission Limits in Non-Standard Operating Modes[1]

Operational Mode	Pollutant Emission Rate (lb/hr)		
	NO_x	CO	VOC
Low Temperature (< 0 to -20 °F)	24.19	35.05	2.00
Very Low Temperature (<-20 °F)	69.10	52.58	2.00
Low Load Operation (< 50%)	20.97	850.77	9.72
Start-up / Shutdown (lb/cycle)[2]	4.3	384.5	4.4

[1] – Non-standard operating mode is any mode in which the turbine (E03) may operate other than Normal Load.

[2] – The emissions from one cycle are equal to the sum of the emissions from one start-up and one shutdown event.

SOURCE TESTING REPORT FORMAT

Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Test Dates.
4. Tester; name, address and report date

Certification

1. Signed by team leader/certified observer (include certification date)
2. Signed by responsible company official
3. *Signed by reviewer

Copy of approved test protocol

Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity
4. *For each emission unit, a table showing:

a. Operating rate
b. Test Methods
c. Pollutants tested
d. Test results for each run and the run average
e. Pollutant standard or limit

5. Summarized process and control equipment data for each run and the average, as required by the test protocol
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
7. Any other important information

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Sampling port location and dimensioned cross section Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

Test Results

1. Detailed test results for each run
2. *Sample calculations
3. *Description of collected samples, to include audits when applicable

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples
5. *Calibration procedures and results
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

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* Not applicable to visible emission evaluation